Hawker Siddeley Electronics Limited

FERRIS PRODUCTS DIVISION

25 October 1971

BULLETIN TO FERRIS CAR RADIO SERVICE CENTRES:

SUBJECT:

SLIPPING MANUAL TUNING CONTROL

MODELS AFFECTED: 229, 242, 249, 309, 309A, D09, D09A

DETAILS:

When fitted with M.S.P. tuners, some cases of failure of manual tuning drive due to clutch slip have occurred in the above models.

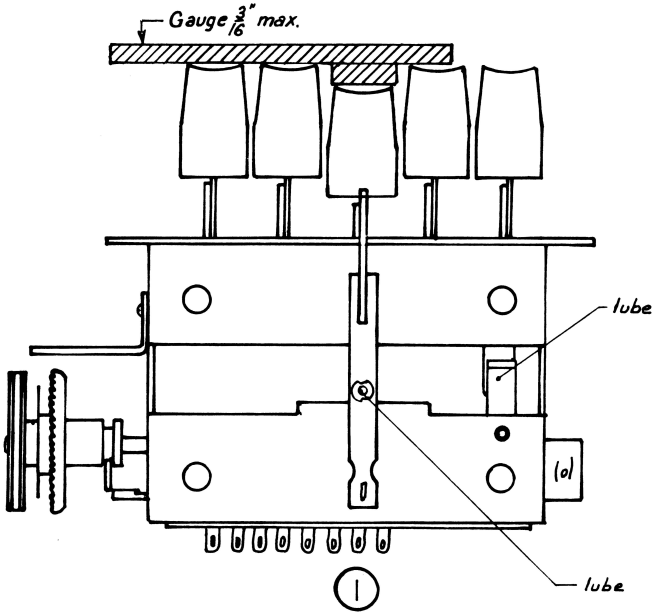
PROCEDURE TO CORRECT:

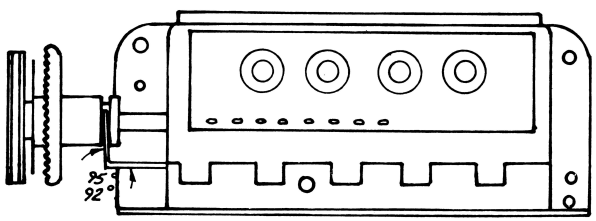
1. Test for free play in button movement. For correct clutch operation, from 1/8" to 3/16" free play should exist (see Fig. 1.)
2. If button free play is less than 1/8" bend clutch lever, using long nosed pliers or a suitable tool, to the angle shown in Fig. 2. – 92° to 95° approx.
3. Check tension on rocker shaft springs on each side of tuner. If excessive, bend spring as shown in Fig. 3., using a screwdriver to relieve pressure.
4. Apply a small amount of soft grease to all friction points. (See arrows marked 'lube' – Figs. 1 & 3).

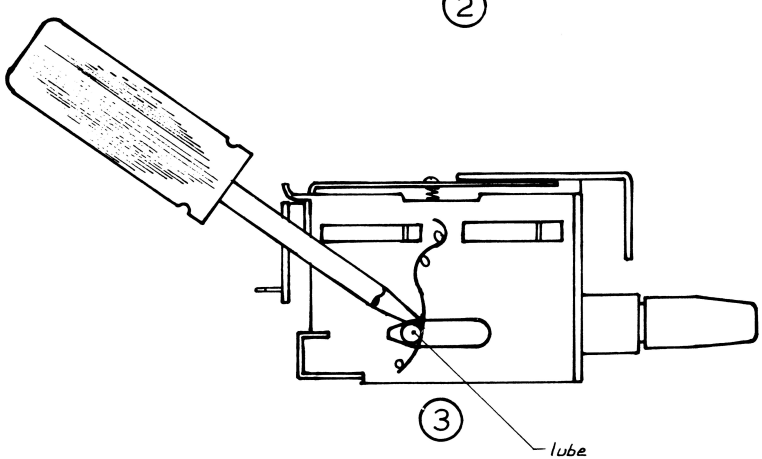
K. W. Hill

K.W. Hill,
General Sales Manager.

SEE OVER – DIAGRAMS 1, 2 & 3







FERRIS SERVICE BULLETIN

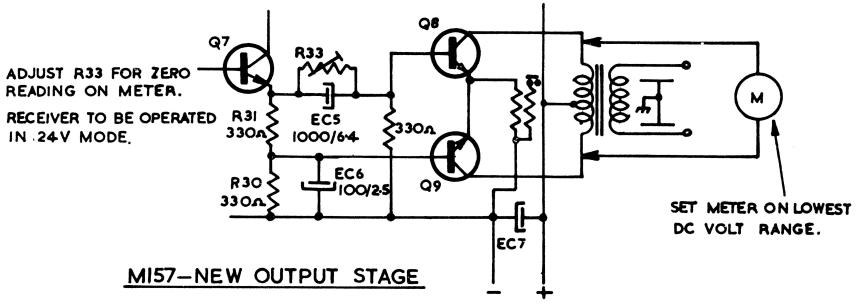
MODIFICATIONS TO CIRCUIT

M 157 'COACHLINER' BUS RECEIVER

When M157 bus sets are returned for service due to transistor failure in the output stage, the following modification should be implemented (refer to M157 circuit diagram):-

(1) Replace 2N3055 transistors.
(2) Change resistors R30 and R31 from 150 ohm to 330 ohm ½ watt 10%.
(3) Disconnect choke L6 (8132) from circuit.
(4) Fit a 330 ohm 10% ½ watt resistor from negative rail to base circuit of Q8 (install resistor on printed circuit board).

All new receivers leaving the factory will be modified accordingly.



M157—NEW OUTPUT STAGE

FERRIS BROS. PTY. LTD.

Hawker Siddeley Electronics Limited

FERRIS PRODUCTS DIVISION

F27

18 October 1971

BULLETIN TO FERRIS CAR RADIO SERVICE CENTRES:

SUBJECTS:

1. INSTABILITY IN MODELS 302, 309, 309A, DO9, DO9A.
2. DISTORTION AND/OR LOW POWER OUTPUT IN MODELS 302, 309, 309A, DO9, DO9A.
3. BREAKAGE OF RESISTOR R10 IN MODEL P42.

DETAILS:

1. Instability - Models 302, 309, 309A, DO9, DO9A.

When instability occurs, particularly at the low frequency end of the band and/or at 910 kHz, the following modifications should be carried out. This problem is aggravated when the aerial trimmer is not correctly peaked at approx. 1500 kHz.

a) Reverse grey and white leads at right hand end of tuner (see FIG. 1).

b) Ensure white lead from tuner to collector of Q1 is kept well away from pig tail of Aerial Choke L1.

c) Install a .001 mF 50v polyester or .001 mF 500v ceramic capacitor between the base and collector of BC157 audio driver transistor. The capacitor can be wired directly to the appropriate tracks on the copper side of the printed circuit board (see FIG. 2).

2. Distortion and/or Low Power Output - Models 302, 309, 309A, DO9, DO9A.

In receivers fitted with Output Transistor Type 2N3054, these symptoms may be due to poor beta in this device. Replacement of the output transistor is the only cure. NOTE: This problem most frequently occurs with 2N3054 transistors branded with a capital 'S'.

3. Breakage of Resistor R10 - Model P42.

In some cases movement of the battery has caused breakage of Resistor R10. Also there have been some instances of the battery terminal contacting the anode lead of Diode D1. When Model P42 radios are received for service it is advisable to carry out the following preventive modifications (refer FIG. 3).

a) Remove and relocate Resistor R1 below the printed circuit board.

b) Unsolder the anode lead of Diode D1. Slip a length of insulating tubing over this lead. Resolder.

K.W. Hill

K.W. HILL.
General Sales Manager.

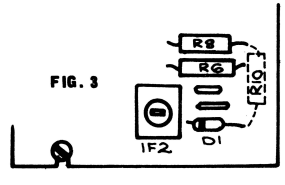


FIG. 3

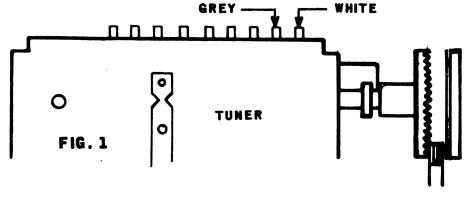


FIG. 1

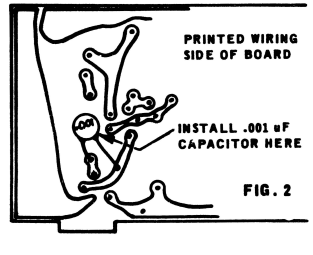


FIG. 2

F27

11 January 1972

BULLETIN TO FERRIS CAR RADIO SERVICE CENTRES

SUBJECTS:

1. STANDARD EQUIPMENT FITTING OF MODEL TO10 TO NEW TOYOTA CROWN MODEL SE SEDAN
2. NEW TYPE FIRST R.F. AMPLIFIER TRANSISTORS - MODELS 242, 249
3. MODIFICATION FOR GREATER UNDISTORTED POWER OUTPUT - MODELS 302, 309, 309A, D09, D09A
4. USE OF 63 VOLT EXTENDED FOIL CAPACITORS - ALL MODELS
5. MODIFICATION TO ELIMINATE HETERODYNE WHISTLE AT 610 KHZ - MODEL TO10
6. MODIFICATION TO CORRECT MISALIGNMENT OF DIAL CORD PULLEY PIN - MODEL 304
7. ALIGNMENT OF RECEIVER CRADLE CONTACTS - MODEL 304
8. AVAILABILITY OF REPLACEMENT PARTS

DETAILS:

1. Standard Equipment Fitting of Model TO10 to New Toyota Crown Model SE Sedan.

Model TO10 is fitted on line to this vehicle during assembly. All components of the radio kit WITH THE EXCEPTION OF:-

a) Electric aerial
b) Electric aerial switch
c) Electric aerial power lead
d) Compensated rear aerial extension lead

are covered by a 12/12 warranty by Hawker Siddeley Electronics Limited. You are authorised to carry out under guarantee service to this receiver and its accessories, with the above exceptions, on our behalf, under our usual conditions. A copy of the circuit diagram for Model TO10 is enclosed.

2. New Type First R.F. Amplifier Transistors - Models 242, 249.

Some failures of Type AS301 first R.F. transistors have occurred during electrical storms, and as a result of static electricity build-up between vehicle body and ground. In such cases replacement should be made with Type AS320 or AS321.

3. Modification For Greater Undistorted Power Output - Models 302, 309, 309A, D09, D09A.

In cases of low undistorted power output, when the corrective action set out in our Bulletin dated 18 October 1971 is not effective, the fault may be due to distortion in the Audio Amplifier Driver Stage. In such cases modifications should be carried out:

a) Remove R20 (470 ohm ½ watt resistor).
b) Remove Q5 (BC157 transistor).
c) Remove green lead from base of Q6 (2N3054) and PC board.
d) Connect 330 ohm ½ watt resistor, leaving one pigtail long enough to extend and solder to negative rail (see FIG. 1).
e) Install OC955 or OC952 transistor in place of Q5.
f) Connect a green lead of sufficient length to connect between base of Q6 and collector of Q5. Pass lead around end of PC board. (FIG. 1).
FIG. 2 shows the electrical details of the modified circuit.

4. Use of 63 Volt Extended Foil Capacitors - All Models

When replacement of a faulty polystyrene capacitor becomes necessary, 63 volt extended foil types should be used. Capacitors used in tuned circuits, such as oscillators and I.F. amplifiers, should be given priority. THE ABOVE APPLIES TO THE ENTIRE RANGE OF FERRIS CAR RADIOS.

5. Modification to Eliminate Heterodyne Whistle at 610 KHz - Model TO10

In some Model TO10 receivers a heterodyne whistle occurs at 610 KHz (2FC Sydney). In such cases the following modification should be carried out - (refer to FIG. 4).

1) Cut the P.C. board copper track as shown
2) Solder a short lead across the tracks as indicated.

6. Modification to Correct Misalignment of Dial Cord Pulley Pin - Model 304

Early production model 304 receivers may suffer from misalignment of the left hand dial cord pulley pin, due to distortion of its plastic mounting bracket. This problem should be corrected as follows (refer FIG. 3):

a) Remove four screws at rear of case and remove rear lid.
b) Pull off volume and tuning knobs from spindles.
c) Slacken the two module box screws.
d) Remove dial cover and function plate.
e) Remove and discard the 1/8" Whit. x 1/4" countersunk head screw securing pulley pin to case. Hold pulley pin against spring tension with long nose pliers.
f) Refit pulley pin to case with an 1/8" Whit. x 1.1/4" countersunk head screw. Note that end of screw must enter hole provided in module box.
g) Refit function plate and dial cover.
h) Retighten module box screws whilst holding box against end of case to ensure that contacts are located centrally in case slot.
i) Replace rear lid and secure with the four screws previously removed.
j) Refit volume and tuning knobs.

7. Alignment of Receiver Cradle Contacts - Model 304.

In cases when Model 304 power cradle contact pins do not connect correctly with the concave contacts in the base of the receiver, it may be found that the contact strip is not aligned centrally in the slot in the receiver base. The following procedure should be carried out in such cases and whenever the receiver module box screws are loosened or removed (refer to FIG. 3).

a) Slacken the two module box screws.
b) Retighten screws whilst holding module box against end of receiver case to ensure that contacts are located centrally in case slot.

8. Availability of Replacement Parts

Some complaints have been received, particularly in regard to Ferris-Datsun Models D09 and D09A, of the non-availability from time to time of some essential replacement parts from our capital city branches and distributors. Action has been taken to prevent a recurrence of this problem, but if at any future time you should be unable to obtain replacement parts ex stock from your capital city Ferris distributor, please write immediately direct to the General Sales Manager, Hawker Siddeley Electronics Limited, at the above address.

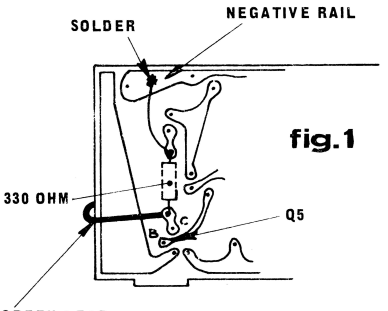


fig.1

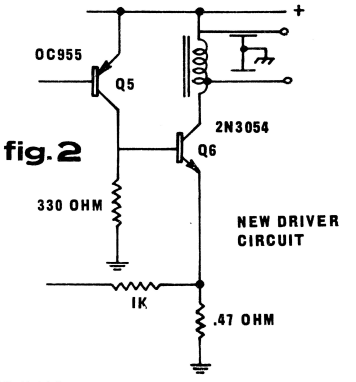


fig.2

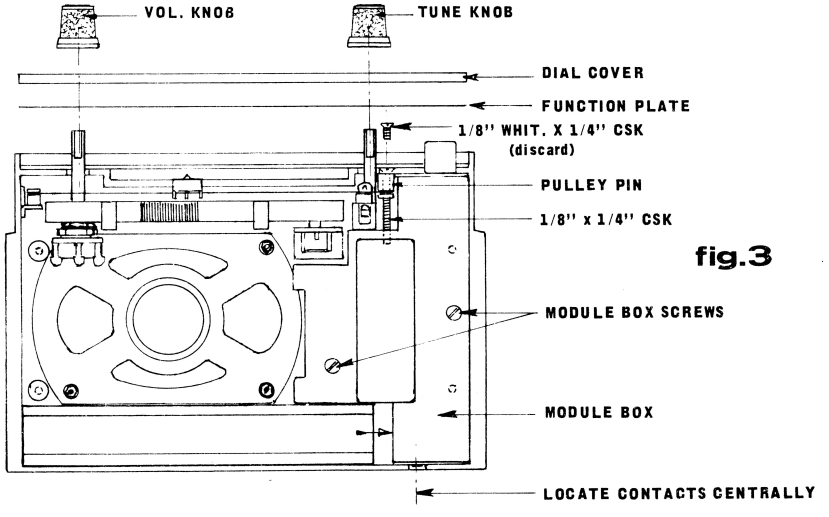


fig.3

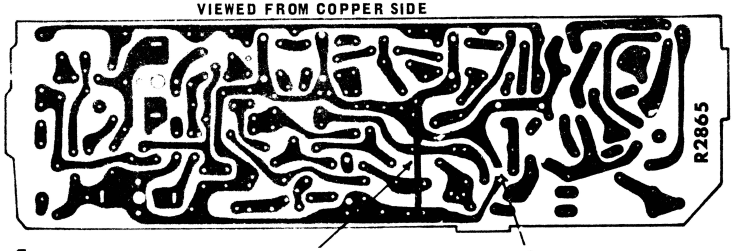


fig.4

DIAGRAMS REFER
FERRIS SERVICE CENTRE BULLETIN 11/2/72

10th February, 1972.

BULLETIN TO FERRIS CAR RADIO SERVICE CENTRES

SUBJECTS:

1. IGNITION INTERFERENCE IN MODEL 304
2. FREE PLAY OF RECEIVER IN MODEL 304 POWER CRADLE

DETAILS:

1. Ignition Interference - Model 304

If, after fitting normal suppression to a vehicle, ignition interference is still a problem, the following points should be checked.

(a) Ensure a good earth return exists between cradle frame and car body. This is particularly important in the care of vehicles with non-metal dashboards. In such cases an efficient earth via the cradle rear mounting bracket is essential.

(b) Check alignment of phosphor bronze wire contacts of cradle. Ensure particularly that cradle earth contact is entering the clearance hole in the base of the set to give an effective earth to the die cast module box within the receiver.

If interference persists, remove plastic rear lid from set and check fit of die cast lid on module box. This lid must make a firm electrical contact around its perimeter. This is especially important around the area near the push button switch. In stubborn cases, a small contact soldered to the top of the tuner frame and arranged to contact the under side of the die cast lid will help. See FIG.1.

2. Free Play in Power Cradle - Model 304

Early production Model 304 power cradles did not incorporate a rubber buffer to equalize forward pressure on both sides of the receiver base. Details of the modification now introduced in production to receify this problem are as follows -

(a) Obtain a pre-cut buffer - Part No. R2910 - or cut one from Dunlop Sponge Rubber Weather Strip (section A27).

(b) Attach buffer to power cradle in the position shown in FIG.2 using a suitable contact adhesive.

K.W. HILL
GENERAL SALES MANAGER

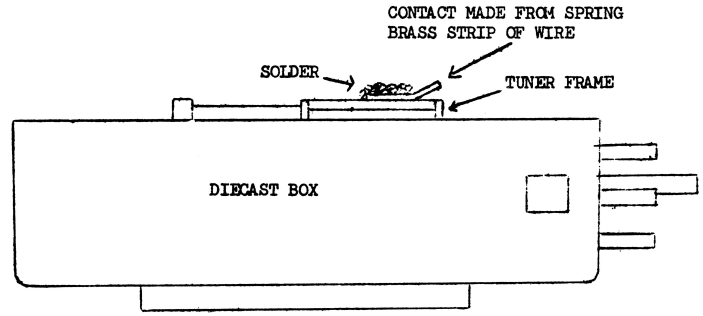


FIGURE 1

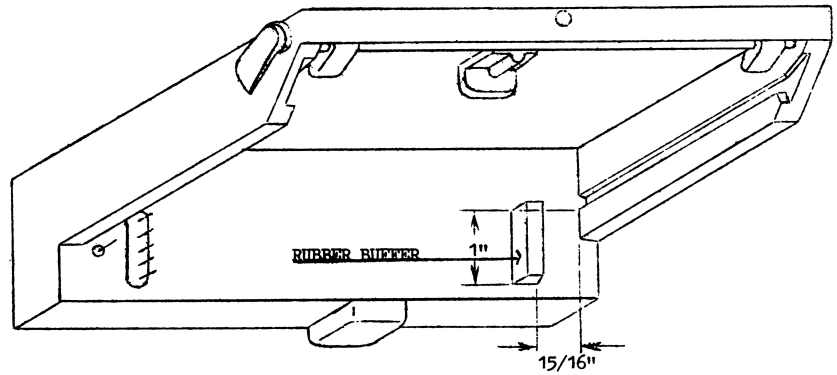


FIGURE 2